

REMARKS

The objection to the claim numbering is noted, and applicant's inadvertent error in skipping about one half dozen sequent numbers is regretted. The claims as properly numbered are acknowledged to include claims 1 through 33.

The indication of allowable subject matter in claims 4, 6-11 and 19 is noted with appreciation, and the dependent claims have been rewritten in independent form including all of the limitations of the base claim and any intervening claims. It is therefore respectfully submitted that independent claims 4, 6-11 and 19 are now patentable to applicant.

Allowance of claims 12-14, and 20-33 is noted with appreciation.

Claims 1, 15-17 have been rejected under 35 U.S.C. §102(b) as being anticipated by Ianniruberto et al. '890, or Green '773.

These claims have been amended merely to define the invention more specifically, and as amended now recite "a solid dilating element disposed on the cannula at a location thereon intermediate the distal and proximal ends thereof and having an outer dimension greater than the dimension of the distal end of the cannula for displacing tissue in response to movement of the dilating element therethrough to form a surgical cavity therein", and "the solid dilating element is a shell rigidly attached to the cannula", and "a dilating element having a fixed size disposed on the cannula at a location thereon intermediate the distal and proximal

ends thereof and having an outer dimension greater than the dimension of the distal end of the cannula for displacing tissue in response to movement of the dilating element therethrough to form a surgical cavity therein”, and “the dilating element is solid.”

These aspects of the claimed invention facilitate formation of an elongated cavity in tissue, for example along a vessel to be harvested from a patient’s body, in response to longitudinal movement of the claimed tissue dissector along the vessel.

These aspects of the claimed invention are not disclosed or even suggested by either Ianniruberto et al. ‘890 or Green ‘773. Specifically, Ianniruberto et al. ‘890 merely discloses a tissue-gripping device 100 with helical threads disposed on the outer surface of the conically-shaped tissue-gripping device” ... to provide optimum entry and removal force and fluid sealing ... and sufficient holding power to retain the laparoscopic instrumentation in the desired position.” (Col. 2, lines 25-64) (emphasis added) And, Green ‘773 similarly discloses a tissue-gripping apparatus that includes a plurality of hinged, articulated arms positioned at the distal end of an outer sleeve for providing enhanced retention of the surgical apparatus in a patient’s body (Col. 2, line 63 to col. 3, line 30). Thus, these references disclose tissue-gripping devices for anchoring instrumentation at an insertion location on a patient’s body, and are devoid of any disclosure of a device

or procedure for forming a cavity in tissue in response to movement therethrough of a dilating element, in the manner as claimed by applicant. It is therefore respectfully submitted that the claims 1 and 15-17 are not anticipated by the deficient disclosure of these cited references, and that these claims as amended are now patentably distinguishable over the cited art.

Claims 1-3, 5, and 15-17 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Goodwin et al '061. This rejection is respectfully traversed.

These claims as amended variously recite “a solid dilating element disposed on the cannula at a location thereon intermediate the distal and proximal ends thereof and having an outer dimension greater than the dimension of the distal end of the cannula for displacing tissue in response to movement of the dilating element therethrough to form a surgical cavity therein”, and “the dilating element is substantially of oval shape”, and “a spacer length is disposed intermediate the tip and the dilating element, the spacer length having an outer dimension less than the outer dimension of the dilating element”, and “the solid dilating element is a shell rigidly attached to the cannula”.

In addition, these claims variously recite “a dilating element having a fixed size disposed on the cannula at a location thereon intermediate the distal and proximal ends thereof and having an outer dimension greater than the dimension of the distal end of the cannula for displacing tissue in response to movement of

the dilating element therethrough to form a surgical cavity therein”, and “the dilating element is solid.”

These features of the claimed invention are not disclosed or even suggested by Goodwin et al. ‘061 which merely discloses a trocar and obturator assembly having no dilating element with characteristics and location on a cannula, as claimed by applicant. It is therefore respectfully submitted that claims 1-3, 5 and 15-17 are not anticipated by the deficient disclosure of Goodwin et al. ‘061, and that these claims are patentably distinguishable over the cited art.

Claims 16 and 18 have been rejected under 35 U.S.C. §102(b) as being anticipated by Haaga ‘502. This rejection is respectfully traversed.

These claims as amended specifically recite “a dilating element having a fixed size disposed on the cannula at a location thereon intermediate the distal and proximal ends thereof and having an outer dimension greater than the dimension of the distal end of the cannula for displacing tissue in response to movement of the dilating element therethrough to form a surgical cavity therein”, and “the dilating element comprises expansively resilient foam.”

These features of the claimed invention are not disclosed or even suggested by Haaga ‘502 which merely discloses a trocar-type sheath for insertion into an access port in a patient’s body and relies, in one embodiment, upon a material that expands radially outwardly for compressing the tissue access site and minimizing

bleeding. (Col. 3, lines 38-58). It is therefore respectfully submitted that the apparatus and surgical objectives disclosed in this reference are deficient of the aspects as specifically recited in applicant's claims 16 and 18 which are therefore not anticipated by, but which are instead patentably distinguishable over the cited art.

Reconsideration and favorable action are requested on the remaining claims, in addition to the allowed claims 12-14, and 20-33, in consideration of the Examiner's statement of reason for finding allowable subject matter.

Respectfully submitted,
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Attachments:
CLAIMS REVISIONS

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Please amend claims 1, 6-9, 15, 16 and 19 as follows:

1. (Amended) A tissue dissector comprising:

an elongated cannula, having a proximal end and a distal end;

a tip having tapered outer walls and being disposed on the distal end
of the cannula for inserting into tissue; and

a solid dilating element disposed on the cannula at a location thereon
intermediate the distal and proximal ends thereof and having an outer dimension
greater than the dimension of the distal end of the cannula for displacing tissue in
response to movement of the dilating element therethrough to form a surgical
cavity therein.

6. (Amended) [The] A tissue dissector [of claim 4 in which the]
comprising:

an elongated cannula having a proximal end and a distal end;

a tip having tapered outer walls and being disposed on the distal end
of the cannula for inserting into tissue;

a dilating element disposed on the cannula at a location thereon
intermediate the distal and proximal ends thereof and having an outer dimension

greater than the dimension of the distal end of the cannula for displacing tissue to form a surgical cavity therein; and

a locking mechanism positioned near the distal end of the cannula at a location recessed from the tip disposed on the distal end of the cannula, the dilating element comprising a mating lock to mate with the locking mechanism for positioning the dilating element on the cannula at a location thereon recessed from the distal end thereof, said locking mechanism further [comprises] comprising a length of screw threads positioned on the surface of the cannula, and the mating lock of the dilating element further [comprises] comprising a threaded bore hole for fixably coupling the dilating element to the length of screw threads.

7. (Amended) [The] A tissue dissector [of claim 4 in which the] comprising:

an elongated cannula having a proximal end and a distal end;

a tip having tapered outer walls and being disposed on the distal end of the cannula for inserting into tissue;

a dilating element disposed on the cannula at a location thereon intermediate the distal and proximal ends thereof and having an outer dimension greater than the dimension of the distal end of the cannula for displacing tissue to form a surgical cavity therein; and

a locking mechanism positioned near the distal end of the cannula at a location recessed from the tip disposed on the distal end of the cannula, the dilating element comprising a mating lock to mate with the locking mechanism for positioning the dilating element on the cannula at a location thereon recessed from the distal end thereof, said locking mechanism further [comprises] comprising at least one protuberance and the mating lock of the dilating element further [comprises] comprising a mating slot for fixably coupling the dilating element to the protuberance.

8. (Amended) [The] A tissue dissector [of claim 4 for] comprising:
an elongated cannula having a proximal end and a distal end;
a tip having tapered outer walls and being disposed on the distal end of the cannula for inserting into tissue;
a dilating element disposed on the cannula at a location thereon intermediate the distal and proximal ends thereof and having an outer dimension greater than the dimension of the distal end of the cannula for displacing tissue to form a surgical cavity therein; and
a locking mechanism positioned near the distal end of the cannula at a location recessed from the tip disposed on the distal end of the cannula, the dilating element comprising a mating lock to mate with the locking mechanism for positioning the dilating element on the cannula at a location thereon recessed from

the distal end thereof, [operation] the dissector operating with selected ones of a population of dilating elements of differing maximum dimensions for enlarging a surgical cavity to differing dimensions:

9. [The] A tissue dissector [of claim 1, in which] comprising:

an elongated cannula having a proximal end and a distal end;

a tip having tapered outer walls and being disposed on the distal end of the cannula for inserting into tissue; and

a solid dilating element disposed on the cannula at a location thereon intermediate the distal and proximal ends thereof and having an outer dimension greater than the dimension of the distal end of the cannula, the dilating element [is] being expansively resilient for displacing tissue to form a surgical cavity therein.

15. (Amended) The apparatus of claim 1 wherein the solid dilating element is a shell rigidly [disposed on] attached to the cannula.

16. (Amended) A tissue dissector comprising:

an elongated cannula, having a proximal end and a distal end;

a tip having tapered outer walls and being disposed on the distal end of the cannula for inserting into tissue; and

a dilating element having a fixed size disposed on the cannula at a location thereon intermediate the distal and proximal ends thereof and having an

outer dimension greater than the dimension of the distal end of the cannula for displacing tissue in response to movement of the dilating element therethrough to form a surgical cavity therein.

19. (Amended) [The apparatus of claim 16 wherein the] A tissue dissector comprising:

an elongated cannula, having a proximal end and a distal end;

a tip having tapered outer walls and being disposed on the distal end of the cannula for inserting into tissue; and

a dilating element [comprises] comprising a rigid shell and having a fixed size disposed on the cannula at a location thereon intermediate the distal and proximal ends thereof and having an outer dimension greater than the dimension of the distal end of the cannula for displacing tissue to form a surgical cavity therein.